

CLAIMS

1 1. An electrostatic discharge (ESD) protective structure that protects an integrated circuit
2 connected between a first voltage bus with a first supply voltage (VCC) and a second voltage bus
3 with a second supply voltage (VSS), said electrostatic discharge protective structure comprising:

4 a plurality of laterally designed bipolar transistors each having a first load line connected to
5 the first voltage bus and a second load line connected to the second voltage bus, wherein said first
6 load lines are electrically parallel and said second load lines are electrically parallel to one another,
7 each of said transistors includes a control connection connected to one of the voltage buses;

8 a single track resistor (RB) co-integrated into a semiconductor body, wherein said single
9 track resistor precedes every control connection (B) of said bipolar transistors (T1-T3).

10 2. The electrostatic discharge protective structure of claim 1, wherein said semiconductor
11 body has embedded therein at least one emitter zone and at least one collector zone of the first
12 conduction type and at least one base zone of the second, opposite conduction type, wherein a
13 well-shaped region is inserted into said semiconductor body between said zones of the first
14 conduction type and said base zones, so as to extend the effective mean free path of the charge
15 carriers to said base zone.

16 3. The electrostatic discharge protective structure of claim 2, wherein said well-shaped region
17 is connected to one of said zones of the first conduction type.

18 4. The electrostatic discharge protective structure of claim 3, wherein said well-shaped region

2 has the same conduction type as said zone to which it is connected, but has a lower dopant
3 concentration.

1 5. The electrostatic discharge protective structure of claim 4, wherein said well-shaped region
2 extends deeper into said semiconductor body than said zone which it adjoins or to which it is
3 connected.

1 6. The electrostatic discharge protective structure of claim 5, wherein said base zones
2 laterally enclose said emitter zones at said collector zones.

1 7. The electrostatic discharge protective structure of claim 6, wherein said semiconductor
2 body has charge carriers of the first conduction type and that at least one further well of the second
3 conduction type is embedded in said semiconductor body, and that said emitter zones, collector
4 zones, and base zones and said well-shaped regions are embedded in said well.

1 8. The electrostatic discharge protective structure of claim 7, wherein said emitter zones and
2 collector zones are designed as strips and are disposed alternatingly next to one another and
3 parallel to one another.

1 9. The electrostatic discharge protective structure of claim 8, wherein said electrostatic
2 discharge protective structure is configured and arranged in an essentially square layout.

1 10. The electrostatic discharge protective structure of claim 9, wherein in said emitter zones
2 are through-contacted by said emitter electrodes, and said collector zones are through-contacted

3 contacted by said collector electrodes.

1 11. The electrostatic discharge protective structure of claim 8, wherein said emitter electrodes
2 and said collector electrodes are connected via conductor tracks to oppositely situated voltage
3 buses and form finger-like connections which are staggered with one another.

1 12. The electrostatic discharge protective structure of claim 8, wherein said bipolar transistors
2 (T1-T3) are designed as field oxide transistors.

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